

**INTERVIEW SUMMARY**

Applicants wish to thank Examiner Niland for the helpful and courteous discussion with Applicants' Representative on April 5, 2007. During this discussion it was noted that the claims as amended appear to overcome the rejections as being indefinite. Further it was noted that it is the number average molecular weight  $M_n$ , in b1) of Claims 1 and 2, since the average molecular weight of the polyols is usually determined using the OH number, see Examples 1 to 5, 7 and 8. The z-average particle size of Claims 7 and 17-20 is supported at page 10, line 26.

Regarding the rejection of the claims over US 5959027 in view of US 4046729 it was noted that **a minimum amount of a hydrophilic compound**, i.e. the polyol bearing oxyethyl moieties, **is necessary in order to ensure emulsification of the polyurethane**. This is represented by the minimum amount of at least 3% by weight of oxyethyl moieties. Further, optimum particle size is achieved if **a well chosen balance between hydrophilic oxyethyl- and hydrophobic propylene glycol moieties** is established. This is represented by limiting the oxyethyl moieties to 10 to 90 % by weight. However, US 5959027 and US 4046729 fail to disclose or suggest the excellent emulsification of a polyurethane in an aqueous primary dispersion as claimed.

**REMARKS**

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The rejection of Claims 1-20 under 35 U.S.C. § 103(a) as obvious over US 5959027 in view of US 4046729 is respectfully traversed.

It is an object of the present invention to provide **primary dispersions** which comprise polyurethane, which are finely divided without the use of high shear forces, and which make it possible not only for the raw materials to be emulsified finely but also for the products to be dispersed. See page 2, 1<sup>st</sup> full paragraph of the specification.

The present invention as set forth in **amended Claim 1** relates to an aqueous **primary dispersion**, comprising:

at least one polyurethane obtained by reacting

a) at least one polyisocyanate,

b1) at least one polyol comprising a structural unit  $[-\text{CH}_2-\text{CH}_2-\text{O}-]$  one or more times, wherein said structural unit  $[-\text{CH}_2-\text{CH}_2-\text{O}-]$  is obtained from a synthesis component selected from the group consisting of ethylene glycol, polyethylene glycol having a molar mass of between 106 and 2000, and ethylene oxide,

b2) optionally at least one polyol other than b1),

b3) optionally at least one compound containing at least two isocyanate-reactive groups selected from the group consisting of thiol groups and primary and secondary amino groups,

b4) optionally at least one monofunctional monomer having an isocyanate-reactive group, and

c) optionally at least one ionic or potentially ionic synthesis component,

wherein

**the fraction of the structural units  $[-\text{CH}_2-\text{CH}_2-\text{O}-]$ , calculated at 44 g/mol, in**

**the polyol b1) is from 10 to 90% by weight, and**

**the fraction of the structural units  $-[-\text{CH}_2-\text{CH}_2-\text{O}-]-$ , calculated at 44 g/mol, in the sum of the components a) + b1) + b2) + b3) + b4) + c) is at least 3% by weight.**

However, US 5959027 and US 4046729, alone or in combination fail to disclose or suggest an aqueous **primary** dispersion as claimed.

The polyurethanes according to the present invention are dispersible in water and form a finely emulsified dispersion on stirring the oil phase into water. **A minimum amount of a hydrophilic compound, i.e. the polyol bearing oxyethyl moieties, is necessary in order to ensure emulsification of the polyurethane.** Accordingly, the fraction of the structural units  $-[-\text{CH}_2-\text{CH}_2-\text{O}-]-$ , calculated at 44 g/mol, in the sum of the components a) + b1) + b2) + b3) + b4) + c) is **at least 3% by weight.**

On the other hand, in order to optimize the particle size, the presence of the polyurethanes according to the present invention **at the interface** between the water and the oil phase has to be achieved, i.e. neither in the water phase nor in the oil phase. In case the hydrophilic compound is too hydrophilic, e.g. 100 % oxyethyl moieties, the polyurethane is drawn into the water phase. If the hydrophilic group is not hydrophilic enough, e.g. a 100% polypropylene glycol, the polyurethane remains in the oil phase.

Hence, an optimum particle size is achieved if a well chosen balance between **hydrophilic oxyethyl- and hydrophobic propylene glycol** moieties is established. Accordingly, **the fraction of the structural units  $-[-\text{CH}_2-\text{CH}_2-\text{O}-]-$ , calculated at 44 g/mol, in the polyol b1) is from 10 to 90% by weight.**

However, US 5959027 and US 4046729, alone or in combination fail to disclose or suggest the excellent emulsification of a polyurethane in an aqueous primary dispersion as claimed having **a fraction of the structural units  $-[-\text{CH}_2-\text{CH}_2-\text{O}-]-$  in the polyol b1) of from 10 to 90% by weight, and a fraction of the structural units  $-[-\text{CH}_2-\text{CH}_2-\text{O}-]-$  in the**

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**sum of the components a) + b1) + b2) + b3) + b4) + c) of at least 3% by weight.**

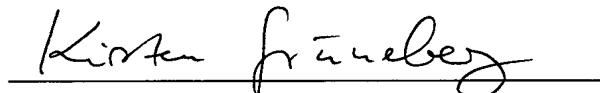
Therefore, the rejection of Claims 1-20 under 35 U.S.C. § 103(a) as obvious over US 5959027 in view of US 4046729 is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claims 1-20 under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, is obviated by the amendment of the Claims. Further, it is the number average molecular weight  $M_n$ , in b1) of Claims 1 and 2, since the average molecular weight of the polyols is usually determined using the OH number, see Examples 1 to 5, 7 and 8. Thus, this rejection should be withdrawn.

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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